



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,211	01/15/2002	Kilian Peetz	GK-GRA-103 / 500704.20003	4397
26418	7590	12/01/2004	EXAMINER	
REED SMITH, LLP ATTN: PATENT RECORDS DEPARTMENT 599 LEXINGTON AVENUE, 29TH FLOOR NEW YORK, NY 10022-7650			FULLER, ERIC B	
			ART UNIT	PAPER NUMBER
			1762	

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/053,211

Applicant(s)

PEETZ ET AL.

Examiner

Eric B Fuller

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on September 8, 2004 has been entered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Applicant has added the limitation of the process temperature being greater than 1000 degrees Celsius. The specification does not have adequate support for the claimed temperature range of "greater than 1000 degrees Celsius".

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6- 9, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hüttinger et al. (WO 98/21163).

Hüttinger teaches a CVI process for depositing SiC into a preform (abstract). MTS as the precursor in a hydrogen carrier gas is taught on page 7, lines 6-30. The carrier gas is taught to be within the applicant's range (page 15, lines 15-29). The reference discloses pressures within the applicants range (Embodiment 3 and 8). The porosity is within the applicant's range (figure 5; page 5, lines 30-34). Figure 4 teaches the preconditioning step. The product of the reference reads on claims 13 and 14. The examples teach a process temperature of 1,100 degrees Celsius, thus fails to explicitly teach a process temperature of greater than 1,100 degrees Celsius. However, "a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties." See *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). In view of this, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to use temperatures within the applicant's claimed range

Art Unit: 1762

in the process taught by Hüttinger, by doing so one would have a reasonable expectation of success, since the difference between the taught range and the claimed range is infinitesimally small. Additionally, it is noted that differences in temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration of temperature is critical. See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) and *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969) and MPEP 2144.05. The applicant has not shown the criticality between 1,100 degrees Celsius and 1,100.01 degrees Celsius.

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hüttinger et al. (WO 98/21163), as applied to claim 1 above, and further in view of Murphy et al. (US 4,407,885).

Hüttinger teaches the limitations of claim 1, as shown above, but is silent in teaching how the preform is made. However, Murphy teaches a method of forming preforms that read on the applicant's method (column 13, lines 18-50). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the method taught by Murphy to construct the preforms in the process taught by Hüttinger. By doing so, one would have a reasonable expectation of success, as Hüttinger is silent to how the preform is produced and Murphy teaches an art recognized suitable process for producing a preform.

Claims 1-3, 6-9, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hüttinger et al. (WO 98/21163) in view of Linn et al. (US 6,143,376).

Hüttinger teaches a CVI process for depositing SiC into a preform (abstract). The precursor is taught on page 7, lines 6-30. The carrier gas, hydrogen or hydrogen chloride, is taught to be within the applicant's range (page 15, lines 15-29). The reference discloses pressures within the applicants range (Embodiment 3 and 8). The porosity is within the applicant's range (figure 5; page 5, lines 30-34). Figure 4 teaches the preconditioning step. The product of the reference reads on claims 13 and 14. The examples teach a process temperature of 1,100 degrees Celsius, thus fails to explicitly teach a process temperature of greater than 1,100 degrees Celsius. However, Linn teaches the art recognized suitability of using 1,200 degrees Celsius as the process temperature. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize 1,200 degrees Celsius as the process temperature in Hüttinger. By doing so, one would have a reasonable expectation of success, as Linn teaches the art recognized suitability of using 1,200 degrees Celsius as the process temperature.

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hüttinger et al. (WO 98/21163) in view of Linn et al. (US 6,143,376), as applied to claim 1 above, and further in view of Murphy et al. (US 4,407,885).

Hüttinger, in view of Linn, teaches the limitations of claim 1, as shown above, but is silent in teaching how the preform is made. However, Murphy teaches a method of forming preforms that read on the applicant's method (column 13, lines 18-50). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the method taught by Murphy to construct the preforms in the process taught by Hüttinger, in view of Linn. By doing so, one would have a reasonable expectation of success, as Hüttinger is silent to how the preform is produced and Murphy teaches an art recognized suitable process for producing a preform.

### ***Response to Arguments***

With respect to the 35 USC 112 rejection, Applicant argues that the specification discloses " $\leq 1100^{\circ}\text{C}$ " and alleges that this is an adequate teaching of "greater than  $1100^{\circ}\text{C}$ ". This argument is not found convincing. The range of " $\leq 1100^{\circ}\text{C}$ " includes  $1100^{\circ}\text{C}$  and temperatures greater than  $1100^{\circ}\text{C}$ . This is different from a range that does not include  $1100^{\circ}\text{C}$ , as the applicant claims. The applicant does not have support for a range that includes temperatures greater than  $1100^{\circ}\text{C}$  but does not include  $1100^{\circ}\text{C}$ . The applicant alleges patentability based on a range that does not include  $1100^{\circ}\text{C}$ . However, the specification fails to convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of a range that did not include  $1100^{\circ}\text{C}$ .

Art Unit: 1762

With respect to Huttinger taken alone, Applicant argues that Huttinger fails to teach MTS and hydrogen in the proportions claimed. Applicant further alleges that Huntington prefers using different precursors and carrier gases due to the decomposition reactions of MTS. These arguments are not found persuasive. Although Huttinger may prefer using MTS with HCl, the embodiment of MTS with hydrogen is explicitly taught to be known and used in the art. Additionally, preferred embodiments are taught where MTS is provided in a mixture that includes hydrogen (page 17, lines 5-30). Huttinger teaches precursor to hydrogen gas ratios that are within the applicant's claimed range. Although, the ratio of MTS with hydrogen is not explicitly taught, one of ordinary skill would interpret the ratio to be within the range of precursor to hydrogen gas ratio taught by Huttinger.

Applicant argues the differences in deposition temperatures. However, criticality has not been established between the infinitesimally small difference between 1100 °C and greater than 1100 °C. Therefore, applicant's arguments are not found convincing for the reasons stated in the rejection.

All other arguments are not found convincing because, as shown above, Huttinger teaches or makes obvious the limitations that the applicant alleges is not taught by the combination of references.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B Fuller whose telephone number is



Art Unit: 1762


(571) 272-1420. The examiner can normally be reached on Mondays through Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P Beck, can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



EBF



SHRIVE P. BECK  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700